THE

WATER-CURE JOURNAL,

DEVOTED TO THE

EXPLANATION OF THE PHILOSOPHY AND PRACTICE OF

HYDROPATHY, OR THE WATER-CURE.

"Wash and be Healed."

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TEA A POSITIVE POISON.*

It may be said, perhaps, that to treat of tea as both a medicine and a poison, is to make a distinction without a difference, since every efficient medicine is a poison of course. There is truth in the suggestion; nevertheless, it is more convenient to arrange my thoughts on the subject under two separate heads.

One evidence that tea is poisonous, is found in the fact that, like alcohol, stramonium, belladona, and many other medicines, it produces its specific disease—the *tea disease*. This part of our subject will be best illustrated by the experiments and deductions of Mr. John Cole, a distinguished member of the Royal College of Surgeons in London.

Mr. Cole does not, indeed, attempt to show that every tea drinker has the tea disease; a point as difficult to establish as that every one who uses alcoholic drinks of any kind has the drunkard's disease. All who use tea, however, are on the high road to the tea disease, just as every dram drinker, and in truth every wine, cider and beer drinker, is on the road to *delirium tremens*.

There is one thing, moreover, which seems a little peculiar in relation to the effects of tea. Though it disturbs, most readily, those constitutions whose tone has been lowered from the healthy standard, by fatigue, debility, loss of blood, &c., yet it has also the power, when taken a long time in excessive quantity, of reducing the healthy constitution to that state in which it becomes accessible to its own deleterious influence. The following is his description of the progress of the disease, in those whose systems were already prepared to be injuriously affected by it:

"In a longer or a shorter time after taking the beverage, (from a few minutes to two or three hours,) an uncomfortable feeling arises in the stomach—a craving, sinking emptiness—which soon acquires a degree of intensity that is almost insupportable. The hunger-like gnawing and craving are described as being to the last degree painful to endure. The stomach being full, has no effect in preventing its accession; neither does eating relieve it. This is often all that is felt for a long time: but by degrees a fluttering, as of a bird, in the left side, is superadded; and a feeling of fulness pervades the chest, with breathless and frequent sighing. The fulness is more especially felt about the clavicles, (or collar bones,) and the root of the neck.

"When black tea or coffee has been taken, considerable excitement often ushers in this succession of phenomena; the

* From "Tea and Coffee: Their Physical, Intellectual, and Moral Effects on the Human System. By Dr. Wm. A. Alcott."

face becomes flushed, the eyes sparkle with unusual brilliance: all the earlier effects of intoxication from alcohol are observable—the pulse being full and throbbing, and considerably quickened. If green tea have been taken, the previous excitement is less, or perhaps not at all perceptible; the skin soon becomes pale, the eyes become sunken, the pulse feeble, quick and fluttering.

"Whichever may have been taken, in the progress of the affection, the hands and feet often become cold as marble, and bedewed with a clammy sweat. Efforts to warm them are made in vain, even in the hottest weather; a feeling of coldness and numbness also invades the back part of the head.

"This is the milder form of the disease, (if I may so term it,) the one which is most commonly seen; but occasionally a variety of aggravated symptoms arise. To the coldness and benumbed feeling of the back of the head, there is added formication of the scalp, (a sensation as if ants were creeping in it,) violent pain in the head, dimness of the sight, unsteadiness in walking, and vertigo; and these are accompanied by a fluttering, feeble pulse. To the feeling of fulness of the chest and about the clavicles, are added threatening of suffocation, insensibility, and convulsions. The sufferings felt in the stomach are aggravated to violent spasms. The fluttering at the heart becomes pain, violent palpitation, or enfeebled action, bringing on a syncope. I may add, here, that the mind does not escape injury, but partakes of the disorders of the body, as is seen by the temper becoming peevish and irritable, so as to render the sufferer a torment to all about him."

Who does not see, in a substance that can induce all these mischiefs on the living system, a less severe though certain poison? Is there a possibility of mistake?

But Mr. C. brings forward a list of ten cases of disease from tea drinking, of which the following is an abstract. It should be premised, however, that except during what he calls the paroxysms, this distinguished surgeon was not in the habit of giving medicine—relying solely, for a cure, on total abstinence from the drinks which produced the mischief.

His first case was that of a female, thirty-five years of age, who complained of great pain in the stomach after eating, with a sense of sinking and emptiness, and such a feeling of faintness that she could hardly walk, followed at length by fluttering in the side, fulness about the clavicles, and vomiting.

The second was that of a female, forty years of age. She was just recovering from catarrhal fever, when one morning, after taking her breakfast, she was seized with symptoms similar to those already mentioned, except the vomiting. It appeared, on inquiry, that her tea that morning, (it was black tea,) had been made stronger than usual, and that she had also drank more than was customary with her.

His third case was that of a female, thirty years of age, who had long been in the use of very strong green tea, in large quantity. For a year before Mr. C. was called, she had been subject to violent spasms of the stomach, which had at length become so frequent and severe, that the slightest exertion, even a little walking, was sufficient to bring them on. When Mr. C. arrived, she was suffering from spasms of usual violence. She had likewise the other usual symptoms of tea disease. On inquiry, he was fully satisfied that all the trouble, in this case, was the effect of tea. She was directed to abstain from it; and for several weeks had no return of the spasms, nor any other symptom of disease. But one day, on venturing upon a single cup of her favorite beverage, she had a slight attack of her old complaint. She resumed her abstinence, and remained well.

The fourth case was that of another female, thirty years old. She had the usual symptoms of tea disease, or tea poison, with the usual nervous suffering. The tea she had used was green tea. She had been in the use of digitalis and colchicum a fortnight, with no other effect than to add to her sufferings, as might have been expected from the addition of two more poisons to the one which was already undermining her constitution. She abstained from tea, and in three days recovered.

The fifth case was that of a female,

twenty-five years of age, famous in her profession of tea drinking. Mr. C. prohibited tea as usual; but was surprised to find, after having made his daily visit for a week or so, she was no better. On a more rigid search, he found she was still indulging herself clandestinely. She complied, at length, with his prohibition, and in a few days was well.

Case sixth was that of an author and parliamentary reporter, of middle age. He was a green tea drinker—sometimes using it strong, as his common drink, for five or six hours together, to keep up his mental strength. He had become so enslaved, that two or three times a week, he was found lying in a state of insensibility on the floor.

A middle-aged mother was the seventh. She had been subject for some time to occasional fits of insensibility, which occurred in the evening. She had used black tea twice a day, which Mr. C., suspecting to be the cause of mischief, forbade her, and she quickly recovered.—I should have said that she had taken the strongest medicines without success.

A shop-keeper, forty years of age, is next mentioned. He was not only a great tea drinker, but also a coffee drinker. His head was more affected than that of the others. To total abstinence from every drink but water, was added, in this case, for ten days, a little valerian.

The ninth case was that of a young man of twenty-two—a great drunkard, even at this early age, on black tea. In addition to the other symptoms of tea disease, he was at length attacked with bleeding at the nose, and convulsions. He was cured in the usual manner, in a very short time.

The last case mentioned is that of a female—a most devoted slave of the tea-pot. She had long been a sufferer, but would not abandon the cause of her suffering, till a severe cough, with a bloody expectoration, compelled her to do it.

Mr. C. concludes his remarks by observing—"I could extend the number of cases so as to form a body of evidence which it would be difficult to resist. Those I have brought forward are, I think, sufficient to excite considerable doubt as to the harmless qualities of

'The cups that cheer but not inebriate.'

"If it be true," he adds, "that the continued disturbance of the function of an organ will induce change of structure, what are we to expect from the use of tea twice a day, when it deranges the function of the heart for three or four hours after each time of its being taken? If the answer be that it may be expected to produce some structural disease, then there arises this other question,—May not the greater prevalence of cardiac (or heart) disease, of late years, have been considerably influenced by the increased consumption of tea and coffee?"

But Mr. Cole is not the only individual who has suspected tea of containing poison. Distinguished men of both hemispheres have entertained the same suspicions; and several have verified them by experiment.

"As early as 1767," says Mr. Graham, in his Lectures on the Science of Human Life, "Dr. Smith, of Edinburgh, demonstrated, by a series of careful experiments, that an infusion of green tea has the same effect as henbane, tobacco, cicuta, &c., on the living tissues of the animal body; in all cases first diminishing and finally destroying their vital properties. In 1772, Dr. Lettsom, of Ireland, made a series of similar experiments, with similar results. And still later, Dr. Beddoes, of England, by a series of experiments, several times repeated, completely demonstrated that tea is as powerfully destructive to life as laurel water, opium, or digitalis. Indeed, it is entirely certain that a small quantity of a strong decoction of tea or coffee will destroy human life, in one unaccustomed to the use of it, as quickly as an equal quantity of laudanum." Dr. Beddoes applied a strong decoction of tea to hearts just taken from living frogs, which extinguished their vitality almost instantly.

Dr. Cullen, a Scotch physician of great eminence, whose writings are among the standard books of our best medical schools, observes that "scientific experiments prove that an infusion of green tea has the effect to destroy the sensibility of the nerves, and the irritability of the muscles." He says still further, and without excluding black tea, (the properties of which, as

we shall see presently, are essentially the same with those of green tea, only more active)—"From the experiments above mentioned, and from the *observations* which I have made in the course of *fifty years*, upon all sorts of persons, I am convinced that the properties of tea are both narcotic and sedative."

But what does Dr. Cullen mean by narcotics. His definition is—"As their power and operation (that of narcotics generally) may be extended so far as to extinguish the vital principle altogether, they form that set of substances which properly and strictly may be called poisonous."

Dr. Combe, in his work on Digestion and Dietetics, observes, that "when made very strong, or taken in large quantity, especially late in the evening, they (tea and coffee) not only ruin the stomach, but very seriously derange the health of the brain and nervous system."

The Encyclopædia Americana says—"The effects of tea on the human system are those of a very mild narcotic, taken in small quantities—that is, exhilarating."

The Catechism of Health, usually attributed to Dr. Bell, of Philadelphia, says that "tea (black tea, I suppose he means, as well as green) when drank strong and in large quantity, impairs the powers of the stomach, produces various *nervous* symptoms," &c.

Prof. Sweetser, of New York, in a work on Digestion and its Disorders, says of both kinds of tea, black and green, that "owing to a volatile oil they contain, they are both stimulant to the nervous system." After proceeding to mention all or nearly all the effects which have been ascribed to tea by Mr. Cole and others, and noticing the custom of physicians of referring them to other causes rather than the tea, he concludes by saying—"I am inclined to think that the evil is to be ascribed to the peculiar properties of the tea itself."

Dr. Hooper, in his Medical Dictionary, says—"Tea, in its natural state, is a narcotic plant, on which account the Chinese refrain from its use till it has been divested of this property by keeping it at least twelve months. When taken too copiously, it is apt to occasion weakness, tremor, palsies, and various other symptoms, arising from narcotic plants."

"Not a case of sick headache," says Dr. Burdell, of New York, "has ever occurred within my knowledge, except with the drinkers of narcotic drinks, (meaning tea and coffee,) and not a case has failed of cure, on the entire renunciation of these drinks."

Dr. Beaumont, a surgeon in the United States army, whose experiments have attracted the attention of the whole medical world, says—"Even coffee and tea, the common beverage of all classes of people, have a tendency to debilitate the digestive organs. Let any one who is in the habit of drinking either of these articles in a weak decoction, take two or three cups made very strong, and he will soon be aware of their injurious tendency. Yet this is only an *addition to the strength* of the narcotic he is in the constant habit of using."

The reader will observe that Dr. B. calls tea, no less than coffee, a *narcotic*. His testimony, with many, will be the more valuable, when it is known that he does not bring it to support a theory, but as the result of mere experiment—in other words, as matter of pure science.

Green tea, moreover, is spoken of, in some of our journals, especially the Boston Medical and Surgical Journal, as being very efficient, as a remedy in the case of burns and scalds, on account, most unquestionably, of its narcotic, anodyne, or poisonous properties. The Transylvania Journal of Medicine regards it as an anodyne; as truly so, in some cases, as opium.

But I have not yet done. From the busy commercial world are derived the following curious and interesting statements.

The London Quarterly Review says there is a manufactory near Canton, in China, where the worst kinds of coarse black tea are converted into green tea, by heating the leaves moderately on iron, and mixing with it, in the mean time, a composition of tumeric, indigo, and white lead; by which process it acquires a blooming blue color, not unlike that of plums, and that crispy appearance which is supposed to indicate the fine green teas. The writer says he saw 50,000 chests of this spurious article ready for shipping, and on

inquiring for what market it was intended, was told it was for the American.

Other statements speak of Prussian blue and plaster of Paris; but whatever the truth in the case may be, we have reason, at the least, to *suspect* that a large share of the teas imported, are damaged, or worthless teas, *manufactured to suit the market. The Americans must have tea, and the Chinese, an accommodating people, are ready to furnish them with it!*

It is said, I know, that if it could be proved that the green teas are poisonous, the same testimony cannot be brought against black tea. But I have endeavored to show, from various authorities, that even black teas come in for a share of poison. Mr. Brande, the distinguished chemist, has ascertained, by actual and patient experiment, that there is no perceptible difference, in this respect, between green teas and black teas.

Suppose, however, it were not so. Admit, for the moment, that black tea is harmless. How small a proportion of this sort of tea is consumed among us! The proportion of the various kinds of black teas imported, amount to only six-twentieths of the whole, as may be seen by the following table:

Bohea	1-20th	of the	whole.
Souchong & other black teas	5-20ths	do.	do
Hyson & Young Hyson	9-20ths	do.	do.
Hy'n Skin & other green teas	4-20ths	do.	do.
Imperial & Gunpowder	1-20th	do.	do.

THE HUNGER-CURE.*

It may be interesting to some of my readers to know that suffering humanity has found another humble benefactor in Austrian Silesia, whose views are quite as original as those of Priessnitz, and whose practice is yet more opposed to received ideas. I close my little book with some account of his treatment of disease.

About four miles from Graefenberg, up a lovely valley, is situated the village of Lindiviese, where dwells a schoolfellow of Priessnitz, by name Schrott, a remarkable but illiterate man, who told me that he had never opened a book on medicine, physiology, or anatomy, and that he never would. He undertakes to cure all diseases, not by the exhibition of cold water, which he ridicules, but by withholding from his patients all fluids. The treatment which he has adopted, and which may be termed the Dipsopathic (Δι\ψα, thirst,) though clearly applicable to a variety of ailments, as we shall presently show, I found, in a long interview, to emanate from strangely confused physiological notions. He talked of placing the human being in the same condition as it existed in the womb, by means of moist warmth, with which he surrounds it, (the *feuchte warme*,) communicated by three wet sheets, in which the patient sleeps. They are all applied in a manner similar to Priessnitz' one, the process usually commencing at two o'clock in the morning. The patient remains packed up till eight or ten o'clock. The system of total abstinence from drink is carried on for five, and sometimes for eight days consecutively; the alvine excretions cease, and the urine is excreted in small quantity, very turbid, and deposits various salts. One patient told me that he had been twelve days without any relief from the bowels; and I heard also of one who had been seven weeks. Sometimes, however, diarrhœa occurs, which Schrott considers as a favorable crisis.

By depriving the stomach of fluid, the absorbents of the skin are brought into powerful activity; and, by the moisture having to travel from the extremities of the frame, Schrott thinks that it carries with it the humors of the blood to the bladder, from whence they are ultimately expelled with the urine; because in the urine he finds large deposits, to which he triumphantly points as containing the extraneous matter that caused the disease.

It would be only a waste of time to offer any observations on the fallacy of these views. There are, however, cases that have resisted all allopathic and hydropathic appliances, to which this treatment might certainly offer every prospect of success. I allude to those where there has been serous or sanguineous effusion, or dilatation of part of the brain,—excrescences, tumors, clots; in short, where any extraneous matter has been thrown out, which interferes with the functions of the brain and viscera. For, as Liebig ob-

* From "The Cold-Water Cure," by Richard Beamish, Esq., F. R. S.

serves, "In many diseases substances are produced which are incapable of assimilation. By the mere deprivation of food, these substances are removed from the body, without leaving a trace behind; their elements have entered into combination with the oxygen of the air." And again, "In the progress of starvation, it is not only the fat which disappears, but also, by degrees, all such of the solids as are capable of being dissolved. In the wasted bodies of those who have suffered starvation, the muscles are shrunk, and unnaturally soft, and have lost their contractility. All those parts of the body, which were capable of entering into the state of motion, have served to protect the remainder of the frame from the destructive influence of the atmosphere. Towards the end, the particles of the brain begin to undergo the process of oxidation, and delirium, mania, and death close the scene, that is to say, all resistance to the oxidising power of the atmospheric oxygen ceases, and the chemical process of elemacausis, or decay, commences, in which every part of the body, the bones excepted, enters into combination with oxygen." (Liebig's Organic Chemistry.) The "Hunger Cure" has for ages been practised in Germany, but never before to the extent which Schrott carries it, as he sometimes, I have heard, goes so far in the process of oxidation as to produce delirium. Such treatment requires no small amount of moral courage on the part of the patient to undertake. The uncertainty, also, as to the applicability of the remedy to any specific disease is so great, that it is no wonder so few are found willing to endure the experiment.

Cases of epilepsy, for which Priessnitz does not wish to prescribe, were related to me as having been effectually cured by Schrott; also of hypertrophy of the liver. Indeed, one gentleman with whom I was acquainted, whose liver had attained a monstrous size, having tried the hydropathic treatment at Graefenberg for some months, with little success, put himself under Schrott. In ten days he reported that his liver was being diminished by cubical inches. He was under treatment when I left Graefenberg, and entertained every hope of being entirely cured.

The deprivation of fluid is gradual; first for one day, then two, and so on, as the patient's strength permits: the appearance of the eyes being Schrott's index. The quantity eaten during the twenty-four hours by the patient while under the *strong cure*, is usually from two to three small rolls of white bread, called "semmels."

WATER-CURE JOURNAL.

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☞ We are under the necessity of making an apology for the lack of "editorial" matter in our present and last numbers, occurring in consequence of our ill health,—or, more properly, exhaustion,—having been literally "worn out" by labor and care. We trust that these numbers will not prove altogether uninteresting; and we feel a confidence that we shall be able to do better hereafter.

THE TREATMENT OF COLICS, CRAMPS IN THE STOMACH, VOMITING, AND BOWEL COMPLAINTS, ARISING FROM IMPROPER AND INDIGESTIBLE FOOD.

The summer and autumn are seasons in which the above mentioned complaints occur far more frequently than at any other. As a general fact, but little attention is given to the selection of food, the times of eating, regulating the quantity, &c.: things, at all times, of great importance, but more especially in the warm seasons, when the system is less able to resist disease, and the temptations to a too great variety and excess in food are more numerous. These attacks are often dangerous, and result in death; still, we believe, that, taken in season, and properly managed by water treatment, they can, in almost every conceivable instance, be readily cured.

As a general rule, free and repeated vomiting should be the first part of the treatment. The patient, if an adult, must drink many tumblers of lukewarm water,

until the stomach is completely "washed out," by vomiting. When the water returns pure as it entered the stomach, it may be discontinued. Then, secondly, repeated injections of water, either moderately cool or tepid, if the patient is weak, are given. These may be repeated, one after the other, constantly, for two hours or more, should there, in any event, be a necessity for so doing. In some very extreme cases, in which the most powerful of drugs prove wholly inefficacious, great perseverance will be needed on the part of those who practise. The patient will often have to be *compelled* to drink water enough. Few, indeed, have, at such times, sufficient resolution, and therefore need the urging of a friend. We lately had a case, in which most striking results were caused by perseverance, in very simple means. A colored boy had a most violent attack of dysenteria alba, (white dysentery,) accompanied by very great suffering. His mother had used a variety of the simple means, and with some success; still, the disease, on the whole, grew worse. At this stage, when the bowels were acting almost constantly, we commenced by giving, with our own hands, lukewarm injections, for about an hour and a half, one after the other, as often as they passed. During this time, the pains were wholly removed; the discharges from the bowels became, as it were, natural, and the pulse was lowered twenty beats in the minute. From this moment, the little fellow rapidly recovered. He could not have done so, however, without the greatest care in diet.

The first object, then, in these cases, is to cleanse, as far as possible, the stomach and alimentary canal. In doing this, the pains are assuaged, and the patient made comfortable. External means are, of course, often advantageously used. If there is general feverishness, this must be removed. If there is great heat in the bowels, cold cloths, oft repeated, are to be applied to abstract the heat. If there is chilliness, the vomiting with warm water will prevent that symptom. The patient being made free from pain, must remain as comfortable as he can, and, as soon as may be, obtain quiet sleep. He may take, after some hours, and at a regular meal-time, some very light nourishment, recollecting, always, that relapses, often so dangerous in these cases, are generally caused by food. It is incomparably better to live for days almost fasting, than to take a trifle too much aliment. Great errors are every day practised, even by professional men, in giving, in such cases, too much food.

In cases of infants, the same rules of treatment are to be observed, except that, as a general thing, vomiting is not practicable.

We take the following from the "Morning Courier & New York Enquirer." It is one of the many evidences of the salutary effects of cold water in extreme cases. Could we gather all the cases that are published, it would afford much interesting matter for the Journal. Still more interesting would it be to be able to communicate to our readers the proofs of the growing interest among physicians of all classes in the use of water. We trust the day is not far distant when hydropathy shall have the confidence of the whole community:

"Four persons were prostrated by a stroke of lightning at Richmond, on Friday last, whilst passing along the streets. Mr. Adkins, one of the persons struck, was very seriously hurt, but the others, two ladies and a child, were only stunned. The electric fluid came in contact with his breast, but divided and glanced off, passing down both arms and off at his hands. He fell senseless, but was parti-

ally restored by the free use of cold water. At the last accounts hopes were entertained of his complete recovery."

Had Mr. Adkins been subjected to full and judicious hydropathic treatment, we are sure that not only would the word partially have been left out from the above communication, but there would have been an extended eulogium upon the "Water-Cure."

CASES OF LUNG DISEASE.—LETTER FROM THE AUTHOR OF THE CASES OF "MARIA," "PRISCILLA," "JOSEPH," &C.

Mr. Editor:—

I find so much credulity respecting the power of water to benefit consumptive patients, that I take the liberty to send you two cases in point, so strong that I hope they may aid and encourage this numerous and unfortunate class of sufferers. But, unhappily, in the country the physician is dominant, and till men, but more especially *women*, can *think* for themselves, and *act* with moral courage, this simple and blessed element of water will remain at the bottom of the well,—its power little known and reluctantly tested.

In the case of Joseph, (No. 14 of this Journal,) I mentioned the clergyman who found him recovering when he had administered to him so lately the last sacraments preparatory to death.

This gentleman was a great sufferer, and I had been endeavoring to induce him to renounce medicine, and apply to cold water. The physician decided he had but one lung, and any such attempt (it was January, and very cold,) would be madness; but having witnessed the case of Joseph, he determined to make the trial, though in secret, as all his friends protested strongly against it. He did so, and in a month was restored to health. I will give you his own words, in a letter before me, remarking merely that he wore the wet bandage upon his breast, bathed twice a day, attended strictly to diet, exercise, &c.:

"You wish me to give my experience concerning the celebrated Water-Cure.

"I had been suffering much from hæmorrhage for about a year before I tried your admirable cure. During this time, I was almost, if not quite good for nothing. My lungs were in such a state that it was not deemed prudent for me to attempt preaching, and I was scarcely capable of any mental application, and, in consequence, was dispensed from the obligation of reading the divine office. You may remember with what difficulty I was induced to practise the system of Water-Cure. I had not commenced it a week before I felt considerably better, and, *within a month*, my improved appearance was quite evident to all my friends. I was able to preach (twice a day sometimes) and to say my office,—in a word, was almost myself again, being able to perform all the duties of the pastor of a congregation."

During my residence here the last summer, I was the happy instrument of restoring health, through the blessed element of water, in another case of decided consumption. A young lady came here from New York, in so low a state of health, that it was not supposed she would live to return. Hearing of Maria's recovery, she desired to see me, and, at our interview, informed me that she had been six months in the care of one and two physicians, and had grown worse daily,—that she was taking great quantities of iodine, which the doctor declared was her only chance of life; but, notwithstanding the effect was so terrible, she felt convinced she would not live under it another week. Her breast was covered with a large plaster, and she had the appearance of extreme suffering. Her cough was very bad; the pain in her breast and side had been almost without interruption for six months; her appetite had failed; and latterly, she had diarrhœa, daily fever, night sweats and swelling of the feet and ankles.

She removed immediately the plaster, and supplied its place by a wet cloth,—which she renewed whenever it became heated,—and though at first it increased the pain, in a few hours it subsided, and never returned.

Bathing twice a day, a simple and spare diet of bread, vegetables, fruits, and water, completed her cure, and in about *six weeks* she returned to her friends, the picture of health and happiness, and has

since married the gentleman of whom, upon her arrival here, she thought she had taken her last farewell.

BREAD, BREAD-MAKING.—THE HISTORY OF BREAD, ETC.*

It is nearly certain that the primitive inhabitants of the earth ate their food with very little, if any artificial preparation. The various fruits, nuts, seeds, roots, and other vegetable substances on which they subsisted, were eaten by them, in their natural state, with no other grinding than that which was done by the teeth.—As the human family increased and population became more dense and extended, and providential measures more necessary, the condition and circumstances of society gradually led to the invention and adoption of the simple, and, at first, rude arts of domestic life. Among these, was that of bruising the harder articles of their food, such as nuts and seeds, or grain, on flat stones, selected and kept for the purpose. By constant use, these stones in time became hollowed out; being thereby being rendered more convenient, men at length began to form mortars and pestles from stones; and probably the next step was the construction of the rude kind of hand-mills, which continued in use for many centuries; and indeed, which, with the stone mortars, have, throughout all ages and in almost every portion of the earth, been used in the ruder states of society.

When men became acquainted with the use of fire, they probably often parched their corn or grain before they pounded it; and afterwards, they learned to mix it with water into the consistency of dough, and to bake this, in an unleavened or unfermented state, on flat stones before the fire, or in the hot ashes or hot earth, or in the rude ovens which they formed, by digging holes in the earth, into which they put heated stones, and slightly covered with leaves or grass, and then laid in the article they wished to bake, and over this strewed some leaves, and then covered the whole with earth.† This kind of unleavened bread undoubtedly constituted a very important, if not the principal article of artificially prepared food in the diet of the primitive inhabitants of the earth, for many centuries; and the same, or very nearly the same kind of bread continued in general use down to the days of Abraham; and it is probable that the unleavened bread used by his descendants at the feast of the Passover, before and after they left Egypt, was of the same kind.

It is hardly possible, however, that it could have been otherwise, than that, at a much earlier period, larger quantities of this dough were occasionally made, than were immediately baked, and consequently portions of it were suffered to stand and ferment; and by this means, men were in process of time learned to make leavened, or raised bread.—At how early a date, loaf or raised bread came into common use, it is impossible now to ascertain with any considerable degree of precision. The scriptures do not afford us any evidence that Abraham was accustomed to such bread; but the fact that Moses, at the institution of the supper of the Passover, the night before the Jews left Egypt, commanded them strictly to abstain from leavened bread, and to eat only the unleavened, proves conclusively, that the Israelites at least were then accustomed to fermented, or raised bread.

Neither history nor tradition enables us to speak with any degree of confidence in regard to the period at which other nations became acquainted with the art of bread-making; but from all that has come down to us from ancient times, we learn that the primitive generations of every nation subsisted on fruits and other products of the vegetable kingdom, in their uncooked or natural state. "The Greeks assert that they were taught the art of making bread by their god, Pan; and Pliny informs us that this art was not known at Rome till near six hundred years after the foundation of that city. The Roman armies, he says, on their return from Macedonia, brought Grecian bakers into Italy. Before this time, the Romans prepared their meal in a kind of pap or

* From Graham's Lectures on the Science of Human Life.

† In this same manner the Sandwich Islanders cooked all their food, when they were first discovered.

soft pudding; and on this account Pliny calls them pap-eaters."

But though the Egyptians and Israelites were probably among the earliest portions of the human family who became acquainted with the art of making loaf or raised bread, the quality of their bread continued to be exceedingly simple and coarse, for many generations. Even after the establishment of the Hebrew nation in Palestine—in the most splendid days of Jerusalem—at the period of the highest refinement of the Jews in the arts of civil and domestic life, their fine flour, from which their choicest bread and cakes were made, was, in comparison with modern superfine flour, extremely coarse,—ground mostly by females, in hand-mills constructed and kept for that purpose.

From Rome the art of bread-making very slowly found its way over considerable portions of Europe. A thousand years after Julius Cæsar first entered Britain, the rude people of that country were little acquainted with raised bread. "Even at present," says Professor Thomson, "loaf-bread is seldom used except by the higher classes of inhabitants, in the northern countries of Europe and Asia."

In Eastern and Southern Asia, rice principally constitutes the bread of the inhabitants, and this is generally prepared with great simplicity. In Middle and Western Asia, and in Africa, bread, though consisting of different kinds of grain, is prepared with almost equal simplicity. In Scotland, Ireland, and indeed throughout Europe generally, the bread of most of the laboring people, or peasantry, consists of barley, oats, rye, potatoes, peas, beans, chestnuts, and other farinaceous vegetables. In the islands of the Pacific and Southern oceans, the bread of the inhabitants consists of the plantain, bananas, yams, bread-fruit, and other like vegetables, simply roasted, baked, or boiled.

Bread, in the most extended sense of the word,* therefore,—of some kind or other,—made of some of the farinaceous products of the vegetable kingdom, has probably, in almost every portion of the world, and every period of time, been one of the first, and most important, and universal articles of food, artificially prepared by cooking, which has entered into the diet of mankind; and hence it has with great propriety been called "the staff of life."

If we contemplate the human constitution in its highest and best condition,—in the possession of its most vigorous and unimpaired powers,—and ask, What must be the character of our bread in order to preserve that constitution in that condition? the answer most indubitably is, that the coarse unleavened bread of early times, when of proper age, was one of the least removes from the natural state of food,—one of the simplest and most wholesome forms of artificial preparations, and best adapted to fulfil the laws of constitution and relation; and therefore, best adapted to sustain the most vigorous and healthy state of the alimentary organs, and the highest and best condition of the whole nature of man, as a general and permanent fact; and hence, it is very questionable whether loaf or raised bread can be made equally conducive to all the interests of our nature, with the simple unleavened bread. I am aware that many professional men entertain a different opinion on this subject, and speak of unleavened bread as being less nourishing and less easily digested. This may be true to a limited extent, in special cases of impaired and debilitated alimentary organs; but I am confident that, as a general fact, the notion is entirely erroneous.

"The whole people of Asia," says Dr. Cullen, "live upon unfermented rice. The Americans, before they became ac-

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quainted with the Europeans, employed, and, for the most part, still employ their maize in the same condition. Even in Europe, the employment of unfermented bread, and unfermented farinaceæ in other forms, is still very considerable, and we are ready to maintain that the morbid consequences of such a diet are very seldom to be observed. In Scotland, nine-tenths of the lower classes of people—and that is the greater part of the whole—live upon unfermented bread and unfermented farinaceæ in other forms, and, at the same time, I am of opinion that there are not a more healthy people anywhere to be found. We give it to all classes and both sexes with advantage."

It is incontestibly true, that if two portions of the same kind of wheat-meal be taken and made, the one into unleavened and the other into leavened bread, and both be eaten warm from the oven, the leavened bread will prove much more oppressive and difficult to digest in the stomach than the unleavened. But aside from the changes that are produced by the process of fermentation, there are many other considerations why unleavened bread of a proper quality and age is better adapted to sustain the alimentary organs and general constitution of man in their highest and best condition. Nevertheless, it is very certain, that loaf or raised bread can be made so nearly in accordance with the vital laws and interests of our bodies, as scarcely to militate against them in any perceptible or appreciable degree. And when I say this, I mean not merely its effects on the health and longevity of a single individual, but its effects upon the human constitution, through successive generations, for a thousand years or more.

The best Material for Loaf Bread—how prepared, &c.

Among the materials used for making raised bread in our country—and, in fact, of all the known productions of the vegetable kingdom in any country, wheat is decidedly the best; and it is a remarkable fact, that wheat comes nearer to man than perhaps any other plant, in its power of becoming adapted to different climates, over a wide extent of the earth's surface, so that it may almost be said that wherever the human species can flourish, there wheat can be cultivated.

"It is not certainly known," says Professor Thomson, "in what country wheat was first produced. Mr. Bruce informs us that he found it growing wild in Abyssinia; and in his opinion, that kingdom is the native country of the plant. It would seem," continues the Professor, "to be originally an African plant, since it thrives best in Barbary and Egypt; and perhaps the mountains of Abyssinia, though within the torrid zone, may not differ much in point of climate, from the more northern plains of Egypt. Wheat is perhaps cultivated over a greater extent of the globe than any other plant. Excellent crops are raised as far north as Sweden, in latitude 60 degrees; it is cultivated in the East Indies, considerably within the limits of the torrid zone; and in the north of Hindostan, it constitutes a chief article in the food of the inhabitants. In India, however, the plant seems to have deteriorated. It is always dwarfish, and the crop is said to be less abundant than in more northern climates." Yet a cold climate is not most genial to the nature of this plant. "The wheat of France is superior to that of England; the wheat of Italy is still better than that of France; and perhaps the best of all is raised in Barbary and Egypt."—Excellent wheat is raised in the southern and western and middle portions of the United States; and even in the northern and eastern parts of New England, very fine crops have been produced.

But the wheat and other cultivated products of the vegetable kingdom appropriated to the nourishment of man, like those on which our domestic animals subsist, are too generally, in civilized life, very considerably deteriorated, as to their wholesomeness, by the improper tillage of the soil. I have no doubt that it is true, as stated by those who have made the experiment, that the flour of wheat, raised on a cultivated soil recently dressed with crude, stable manure, may readily be distinguished by its odor, from the flour of wheat raised on a new and undepraved soil, or from that raised on a cultivated soil which has been dressed

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with properly digested manure. And if such and similar results of improper tillage can become the sources of serious evil to the human family, through their effects on the flesh of animals which man devours, and on the milk and butter which he consumes, surely the immediate effects of such a deteriorated vegetable aliment on the human system must be very considerable.

They who have never eaten bread made of wheat, recently produced by a pure virgin soil, have but a very imperfect notion of the deliciousness of good bread, such as is often to be met with in the comfortable log houses in our western country. It is probably true that the new soil, in its virgin purity, before it becomes exhausted by tillage, and debauched by the means which man uses to enrich and stimulate it, produces most, if not all kinds of vegetables appropriate for human aliment, in a more perfect and healthy state, than any soil which has been long under cultivation can be made to do. Nevertheless, by a proper application of physiological principles to agriculture, many of the evils which now result from improper tillage may easily be avoided, and the quality of all those vegetable substances which enter into the diet of man may be very greatly improved, both in regard to wholesomeness and deliciousness. But while the people of our country are so entirely given up as they are at present, to gross and promiscuous feeding on the dead carcasses of animals, and to the untiring pursuits of wealth, it is perhaps wholly in vain for a single individual to raise his voice on a subject of this kind. The farmer will continue to be most eager to increase the number of his acres, and to extort from those acres the greatest amount of produce, with the least expense of tillage, and with little or no regard to the quality of that produce in relation to the physiological interests of man, while the people generally are contented to gratify their depraved appetites on whatever comes before them, without pausing to inquire whether their indulgences are adapted to preserve or to destroy their health and life. Yet if some one does not raise a voice upon this subject, which shall be heard and heeded, there will soon reach us, as a nation, a voice of calamity which we shall not be able to shut our ears against, albeit we may in the perverseness of our sensualism, incorrigibly persist in disregarding its admonitions, till the deep chastisements of outraged nature shall reach the very "bone and marrow" of the human constitution, and fill our land with such a living rottenness, as now, in some other portions of the earth, renders human society odious and abominable. Whether, therefore, my voice shall be heard and heeded or not, I will obey the dictates of my sense of duty, and solemnly declare that this subject demands the prompt and earnest attention of every agriculturist and of every friend to the common cause of humanity; for it is most certain, that until the agriculture of our country is conducted in strict accordance with physiological truth, it is not possible for us to realize those physical, and intellectual, and moral, and social, and civil blessings for which the human constitution and our soil and climate are naturally capacitated.

Sometimes, in consequence of the peculiarities of the season, or climate, or soil, or some other cause, there will be a species of disease affecting the wheat and other grains: and this may be of such a character as not easily to be removed nor counteracted by any means; but more generally the rust, and smut, and dust, which attach themselves to the skin of the grain, may, by proper care, be so far removed, as at least to render the meal or flour far more pure and wholesome than it otherwise would be. And here let me remark, that they are greatly deceived, who suppose that the bolting cloth which separates the fine flour from the outer skin or bran, also separates the impurities attached to the outer skin from the flour. By the process of grinding, these impurities are rubbed from the outer skin, and made quite as fine as any portion of the flour, and, for the most part, pass with the fine flour through the bolting-cloth. To remedy this, it is perhaps generally true, that in large flouring establishments, a kind of smut or scouring-mill is in operation, through which the wheat passes, and is pretty thoroughly rubbed or scoured without being broken; and after this, it

passes through a screen or winnowing mill, and thus is tolerably well cleansed and prepared for grinding. Yet this process by no means renders the wheat so perfectly clean and wholesome as washing.

Those who have given little attention to this subject, will probably think that the trouble of washing all their bread-stuff before it is ground, would be much greater than any benefit which would result from it. But a short experience in the matter would convince every one who has a proper regard for the character of his bread, that the trouble of washing his grain bears no comparison to the improvement effected by it. Indeed, they who become accustomed to washing their grain, will soon cease to regard it as a trouble; and the improvement in the whiteness and sweetness of their bread will be so great, that they would be extremely unwilling to relinquish the practice.

When people are so situated that they can have things as they wish, they will also find that their bread is much richer, if the grain is ground but a short time before it is cooked. The best way, therefore, is, for every family to raise or purchase a sufficient quantity of the best new wheat that can be produced by proper tillage in a good soil, and put that away in clean casks or bins, where it will be kept perfectly dry and sweet; and, according to the size of the family, take, from time to time, as they need it, one or two bushels, and wash it thoroughly but briskly in two or three waters, and then spread it out on the drying sheet or table, made for the purpose, and which is considerably inclined, so that the water remaining with the wheat will easily run off.—The skin or bran of the wheat is so well protected by its own oily property, that little or no water will penetrate it, unless it be suffered to remain in the water much longer than is necessary. Being thinly spread out upon the sheet or table in a good drying day, it will be sufficiently dry in a few hours for grinding. And I say again, let any one who loves good bread, wash his grain a few times in this manner, and he will be very reluctant to return to the use of bread made of unwashed grain.

It would be difficult to ascertain at how early a period in the progress of society, mankind, in the preparation of wheat for bread-making, began to put asunder what God has joined together, and to concentrate the more purely nutrient properties, by separating the flour from the part commonly called the bran. The Bible speaks of fine flour or meal, as a portion of the meat-offerings of the temple, but it is not probable this approached very near to the superfine flour of the present time. We are informed also that the Romans, more than two thousand years ago, had four or five different kinds of bread—one of which was made of the purest flour, from which all bran was separated. This was eaten only by the rich and luxurious. A second kind, in more common use, was that from which a portion of the bran was taken: and a third kind, which was more generally used than any other, was that which was made of the whole substance of the wheat. A fourth kind was made mostly of the bran, for dogs. But at whatever period in the history of the race, this artificial process was commenced, certain it is, that, in direct violation of the laws of constitution and relation, which the Creator has established in the nature of man, this process of mechanical analysis is, at the present day, carried to the full extent of possibility; and the farina and gluten and saccharine matter of the wheat, are almost perfectly concentrated in the form of superfine flour. Nor is this all—these concentrated nutrient properties of the wheat are mixed and complicated in ways innumerable, with other concentrated substances, to pamper the depraved appetites of man, with kinds of food which always and inevitably tend to impair his health and to abbreviate his life. Even the bread, which is the simplest form into which human ingenuity tortures the flour of wheat, is, by other causes besides the concentration I have named, too frequently rendered the instrument of disease and death, rather than the means of life and health, to those that eat it.

In cities and large towns, most people depend on public bakers for their bread. And I have no doubt that public bakers, as a body, are as honest and worthy a class of men as any in society. I have no wish to speak evil of any one; and

it is always painful to me to find myself compelled, in fidelity to the common cause of humanity, to expose the faults of any particular class of men, when probably every other class in society is as deeply involved in errors which, in the sight of God, evince, at least, an equal degree of moral turpitude. But public bakers, like other men, who serve the public more for the sake of securing their own emolument than for the public good, have always had recourse to various expedients in order to increase the lucrativeness of their business. To secure custom and profit at the same time, they have considered it necessary, that a given quantity of flour should be made into a loaf as large and as white as possible, and free from any disagreeable taste, while at the same time it retains the greatest possible weight.

From a variety of causes, the quality and price of flour have always been very unstable. Sometimes the crops are small, or the foreign demand for flour, or the home consumption, is unusually great, or the season is unfavorable to the health of grain, and the wheat becomes diseased, or the harvest time is unfavorable and the wheat sprouts before it is secured, or large quantities of flour become soured or musty, or in some other manner damaged.—To counteract these things, and to make the most profitable use of such flour as the market affords them, the public bakers have been led to try various experiments with chemical agents, and there is reason to believe that, in numerous instances, they have been too successful in their practices, for the well-being of those who have been the consumers of their bread.

According to treatises on bread-making, which have within a few years past, appeared in European scientific journals, "alum, sulphate of zinc, sub-carbonate of magnesia, sub-carbonate of ammonia, sulphate of copper, and several other substances, have been used by public bakers in making bread; and some of these substances have been employed by them to a very great extent, and with very great success in the cause of their cupidity. They have not only succeeded by such means, in making light and white bread out of extremely poor flour, but they have also been able so to disguise their adulterations, as to work in with their flour, without being detected by the consumers, a portion of the flour of beans, peas and potatoes:—and even chalk, pipe clay and plaster of Paris, have been employed to increase the weight and whiteness of their bread." "The use of alum in bread-making, (says a distinguished chemist,) appears to be very ancient. It is one of those articles which have been the most extensively and successfully used in disguising bad flour, and the various adulterations of bread. Its injurious action upon the health is not to be compared with that of sulphate of copper, and yet, daily taken into the stomach, it may seriously affect the system."

"Thirteen bakers were condemned on the 27th of January, 1829, by the correctional tribunal of Brussels, for mixing sulphate of copper or blue vitriol with their bread. It makes the bread very white, light, large and porous, but rather tasteless: and it also enables the bread to retain a greater quantity of water, and thereby very considerably increases its weight. A much larger quantity of alum is necessary to produce these effects; but when of sufficient quantity, it strengthens the paste, and, as the bakers say, 'makes the bread swell large.'"—If the statements of our large druggists can be relied on, the public bakers of our own country probably employ ammonia more freely, at present, than any other substance I have named. Pearlash or saleratus is also used by them in considerable quantities.

But even where these adulterations are not practised, the bakers' bread is very rarely a wholesome article of diet.—If any dependence is to be placed on the testimony of several of the principal bakers and flour merchants in New York, Boston and other cities, the flour which most of our bakers work into bread, is of a very inferior quality to what is called good "family flour," and for which they pay from one to three dollars less per barrel; and they sometimes purchase large quantities of old spoiled flour from New Orleans and elsewhere, which was heated and soured in the barrel, and perhaps become almost as solid as a mass of chalk;

so that they are obliged to break it up, and grind it over, and spread it out, and expose it to the air, in order to purify it in a measure from its acid and other bad properties: and then they mix it with a portion of much better flour; and from this mixture they can make, as they say, the very largest and finest looking loaf.* But should the public bakers always use the best of flour, their bread, as a general statement, would still be very inferior to well-made domestic bread, in point of sweetness and wholesomeness. Their mode of manufacturing bread—to say the least of it—destroys much of the virtue of the flour or meal; and hence their bread is only palatable—even to those who are accustomed to it—within twelve, or, at the longest, twenty-four hours after it is baked.

(For the Water-Cure Journal.)

COLD WATER SONG.

By Mrs. A. C. Judson.

All hail to pure cold water,
That bright rich gem from heaven;
And praise to the Creator,
For such a blessing given!
And since it comes in fulness,
We'll prize it yet the more;
For life, and health, and gladness
It spreads the wide earth o'er.

The rill that from the mountain
Comes gaily rippling by,
The river, and the fountain,
All yield a rich supply;
And summer's genial shower
Pours forth the treasure free,
Which makes each bud and flower
Smile, as in conscious glee.

Cold water, thou art healthful,
And Nature's simple cure;
Possess'd of nought that's baneful,—
A beverage most pure:
Refreshed by thee, when weary,
The traveller gains repose;
Thou mak'st the desert dreary
To blossom as the rose.

There's beauty all about thee;
Thy motion to the ear
Is music sweet;—without thee
How sad were earth,—how drear!
Then hail to pure cold water,
That bright rich gem from heaven;
And praise to the Creator,
For such a blessing given.

Buffalo, Aug. 6th, 1846.

* An aged and very respectable member of the Society of Friends, in New York, who had long been extensively engaged in the flour business in that city, and who had always had his family bread made in his own house, was one day asked by his daughter, why he never used the bakers' bread:—"Because, my child," replied he, "I know what it is made of."

Works to be sent by Mail.

WATER CURE FOR LADIES.—A popular work on the Health, Diet and Regimen of Females and Children, and the Preservation and Cure of Diseases: with a full Account of the Processes of Water-Cure. Illustrated with various Cases. By Mrs. M. L. Shew; revised by Joel Shew, M. D. Pp. 156, 12mo. Wiley & Putnam, New York.

Notice of the Work.—"This book is full of excellent advice and instruction for all, whether believers in Water-Cure or not. Its directions for the preservation, as well as restoration, of health are very good, very plain, and all practical; and no person can observe them faithfully without benefit. A great amount of valuable information with regard to Diet, Bathing, Treatment of Children, &c., &c., is here collected from the best authorities, with excellent directions for preparing healthful food and applying Hydropathic remedies."—*N. Y. Tribune.*

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